

## Wilhelm Conrad Röntgen



**Wilhelm Conrad Röntgen is regarded as the discoverer of x-rays and might just be the most famous Nobel Prize recipient who worked at the University in Würzburg.**

### Biography

Wilhelm Conrad Röntgen was born in Lennep (nowadays a part of Remscheid) on March 27th 1845, son to cloth merchant. Between 1861 and 1863 he went to Utrecht Technical School, which he left without a degree.

Between 1865 and 1868 he studied mechanical engineering, physics and aesthetics at the Federal Polytechnic Institute in Zurich, where he finished his studies on August 6th 1868 with a degree in mechanical engineering. In 1869 he started his Ph.D. in Zurich and between 1870 and 1876 he worked as an assistant with August Kundt at the Universities of Würzburg and Strasbourg.

In 1874 his habilitation followed at the University of Strasbourg, where he accepted the position as associate professor two years later. In 1879 he was appointed to the chair of physics at the University of Giessen until he obtained the physics chair at the University of Würzburg in 1888. In 1893 Röntgen was elected president of the University of Würzburg.

In 1895 Röntgen discovered the x-rays, the 'Röntgen-rays'.

Five years later Röntgen transferred to the University of Munich. A year later, 1901, he received the Nobel Prize in Physics 'in recognition of the extraordinary services he has rendered by the discovery of the remarkable rays subsequently named after him'.

Wilhelm Conrad Röntgen died in Munich February 2nd 1923.

### The research which led to the Nobel Prize

At that time a current topic of experimental physics were tests on vacuum tubes with an electrical discharge passed through them. Nobody knows why Röntgen started to experiment in this area. Nevertheless with determination he managed to buy the right equipment to examine electrical discharges with high voltage in a nearly vacuum test tube. Maybe he was looking for rays that can come through the glass of the test tube and can be visualized on a fluorescent screen. The lab was almost dark. Only the dim light of the tube was illuminating it. But even that was too much for Röntgen. He wrapped the tube with black cardboard. To his surprise the fluorescent screen was shimmering! While experimenting with the screen his hand got between the tube and the screen. He saw the bones of his hand.

### Working and living in Würzburg

The Röntgens lived in a seven room apartment on the top floor of the Department of Physics on Röntgenring 8. While still living in Giessen the childless couple had adopted the six year old daughter of a relative whose bad health condition did not allow her to go to school regularly. The young maid moved with them to Würzburg, too. The Röntgens enjoyed the busy cultural life in Würzburg: they went to the theater and to concerts and were close friends with Theodor Boveri. They had a lease on hunting in the 'Gramschatz' forest. Röntgen was always busy due to his job as a professor. He started with about 100 students, but after two years the number increased to 185. He lectured

all of experimental physics five hours weekly in the mornings. In the afternoons he offered private tutoring from Monday to Friday and he organized the practicum and took care of the Ph.D. students. In 1893/94 Röntgen was president of the university.

At the beginning of his period of office he gave the usual speech in which he clearly criticized the Bavarian university administration. In his opening sentence he said:

*The upkeep and support of the university should be a matter of honor for the prince and his advisers, instead of just evaluating it according to the number of useful civil servants, doctors etc. that are trained there annually."*

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[http://www.physik.uni-wuerzburg.de/en/fakultaet/nobel\\_prize\\_winners/wilhelm\\_conrad\\_roentgen\\_1901/](http://www.physik.uni-wuerzburg.de/en/fakultaet/nobel_prize_winners/wilhelm_conrad_roentgen_1901/), 21.05.2012